STN- Structure Seared 8.14.06

10/518,939

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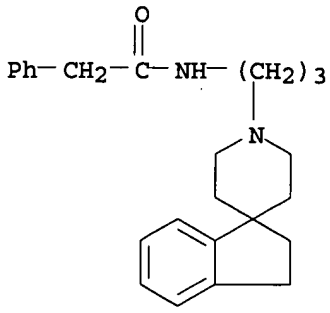
L4 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:47976 CAPLUS
DOCUMENT NUMBER: 144:285627
TITLE: Identification of a Novel Spiropiperidine Opioid Receptor-like 1 Antagonist Class by a Focused Library Approach Featuring 3D-Pharmacophore Similarity
AUTHOR(S): Goto, Yasuhiro; Arai-Otsuki, Sachie; Tachibana, Yukari; Ichikawa, Daisuke; Ozaki, Satoshi; Takahashi, Hiroyuki; Iwasawa, Yoshikazu; Okamoto, Osamu; Okuda, Shoki; Ohta, Hisashi; Sagara, Takeshi
CORPORATE SOURCE: Banyu Tsukuba Research Institute, Banyu Pharmaceutical Co., Ltd., Tsukuba, 300-2611, Japan
SOURCE: Journal of Medicinal Chemistry (2006), 49(3), 847-849
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

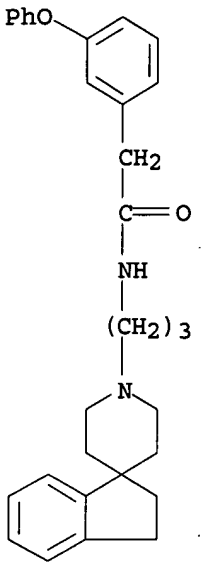
AB A focused library approach identifying novel leads to develop a potent ORL1 antagonist is described. Beginning from a compound identified by random screening, an exploratory library that exhibited a diverse display of pharmacophores was designed. After evaluating ORL1 antagonistic activity, a highly focused library was designed based on 3D-pharmacophore similarity to known actives. A novel D-proline amide class was identified in this library and was found to possess potent ORL1 antagonistic activity.

IT 878230-70-7P 878233-84-2P 878234-31-2P
878235-02-0P 878235-10-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(identification of a spiropiperidine opioid receptor-like 1 antagonist class by a focused library approach featuring 3D-pharmacophore similarity)

RN 878230-70-7 CAPLUS
CN Benzeneacetamide, N-[3-(2,3-dihydrospiro[1H-indene-1,4'-piperidin]-1'-yl)propyl]- (9CI) (CA INDEX NAME)



RN 878233-84-2 CAPLUS
CN Benzeneacetamide, N-[3-(2,3-dihydrospiro[1H-indene-1,4'-piperidin]-1'-yl)propyl]-α-methoxy- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

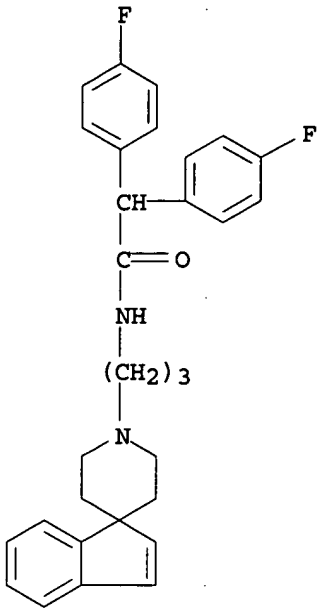
L4 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1016895 CAPLUS
DOCUMENT NUMBER: 143:415586
TITLE: G-Protein-Coupled Receptor Affinity Prediction Based on the Use of a Profiling Dataset: QSAR Design, Synthesis, and Experimental Validation
AUTHOR(S): Rolland, Catherine; Gozalbes, Rafael; Nicolaie, Eric; Paugam, Marie-France; Coussy, Laurent; Barbosa, Frederique; Horvath, Dragos; Revah, Frederic
CORPORATE SOURCE: Cerep, Rueil-Malmaison, 92500, Fr.
SOURCE: Journal of Medicinal Chemistry (2005), 48(21), 6563-6574
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A QSAR model accounting for "average" G-protein-coupled receptor (GPCR) binding was built from a large set of exptl. standardized binding data (1939 compds. systematically tested over 40 different GPCRs) and applied to the design of a library of "GPCR-predicted" compds. Three hundred and sixty of these compds. were randomly selected and tested in 21 GPCR binding assays. Positives were defined by their ability to inhibit by more than 70% the binding of reference compds. at 10 μM. A 5.5-fold enrichment in positives was observed when comparing the "GPCR-predicted" compds. with 600 randomly selected compds. predicted as "non-GPCR" from a general collection. The model was efficient in predicting strongest binders, since enrichment was greater for higher cutoffs. Significant enrichment was also observed for peptidic GPCRs and receptors not included to develop the QSAR model, suggesting the usefulness of the model to design ligands binding with newly identified GPCRs, including orphan ones.

IT 644974-13-0
RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(QSAR design, synthesis, and exptl. validation of G-protein-coupled receptor affinity prediction based on use of a profiling dataset)

RN 644974-13-0 CAPLUS
CN Benzeneacetamide, 4-fluoro-α-(4-fluorophenyl)-N-(3-spiro[1H-indene-

1,4'-piperidin]-1'-ylpropyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:675723 CAPLUS
DOCUMENT NUMBER: 141:207056
TITLE: Preparation of piperidine derivatives as Melanin-concentrating hormone receptor antagonists
INVENTOR(S): Moriya, Minoru; Sakamoto, Toshihiro; Ishikawa, Makoto; Kanatani, Akio; Fukami, Takehiro
PATENT ASSIGNEE(S): Banyu Pharmaceutical Co., Ltd., Japan
SOURCE: PCT Int. Appl., 128 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004069798	A1	20040819	WO 2004-JP1326	20040209
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004209505	A1	20040819	AU 2004-209505	20040209
CA 2515717	AA	20040819	CA 2004-2515717	20040209
EP 1595867	A1	20051116	EP 2004-709372	20040209
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2006106046	A1	20060518	US 2006-544261	20060117
PRIORITY APPLN. INFO.:			JP 2003-32123 A	20030210

WO 2004-JP1326 A 20040209

OTHER SOURCE(S): MARPAT 141:207056

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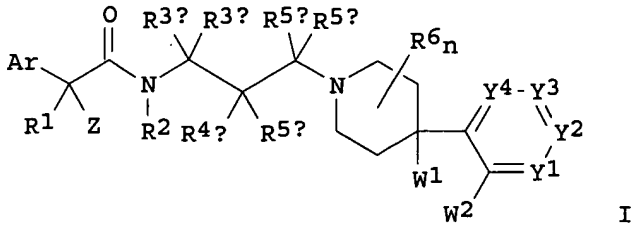

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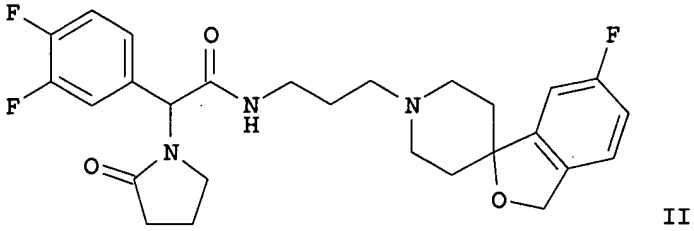


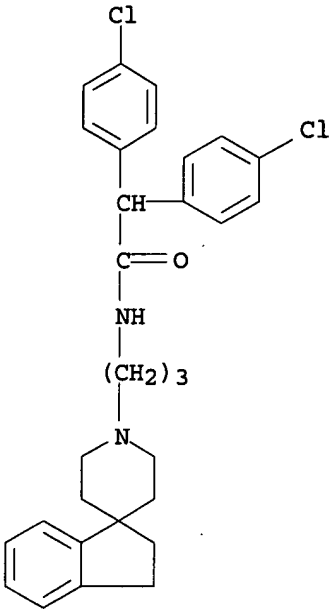
II

AB Title compds. presented by the formula I [wherein R1 = H, hydroxy, (halo)alkyl; R2, R3a, R3b, R5a, R5b = independently H or (halo)alkyl; R4a, R4b = independently H, halo, hydroxy, (halo)alkyl; R6 = H, halo, (halo)alkyl; n = 1-8; W1, W2 = H or W1W2 = OCH2, CH2CH2, CH2O; Z = alkyl or (un)substituted (hetero)cyclic ring; R1Z = (un)substituted (hetero)cyclic ring; Ar = (un)substituted (hetero)aryl; Y1-Y4 = (un)substituted methylene or N; and pharmaceutically acceptable salts thereof] were prepared as melanin concentrating hormone receptor antagonists (no data). For example, II was given in a 3-steps synthesis starting from the reaction of spiro[6-fluoroisobenzofuran-1(3H),4'-piperidine]•HCl with N-(3-bromopropyl)phthalimide. Thus, I and their pharmaceutical compns. are useful as antagonist against melanin -concentrating hormone receptor for the treatment of CNS diseases, circulatory diseases, or metabolic diseases (no data).

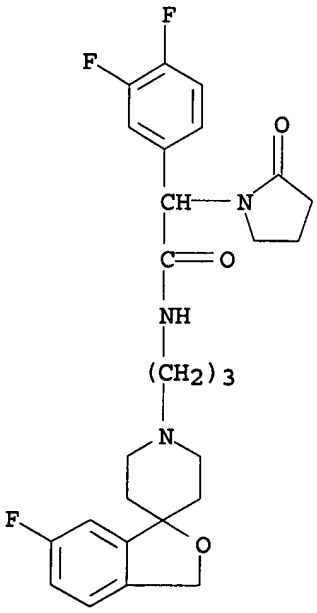
IT 644974-77-6P 741681-65-2P 741681-66-3P
741681-67-4P 741681-69-6P 741681-71-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of piperidine derivs. as melanin-concentrating hormone receptor antagonists)

RN 644974-77-6 CAPLUS

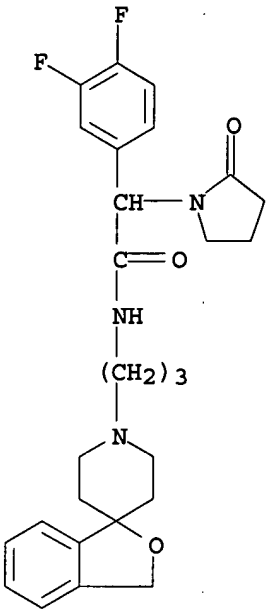
CN Benzeneacetamide, 4-chloro-α-(4-chlorophenyl)-N-[3-(2,3-dihydrospiro[1H-indene-1,4'-piperidin]-1'-yl)propyl]- (9CI) (CA INDEX NAME)



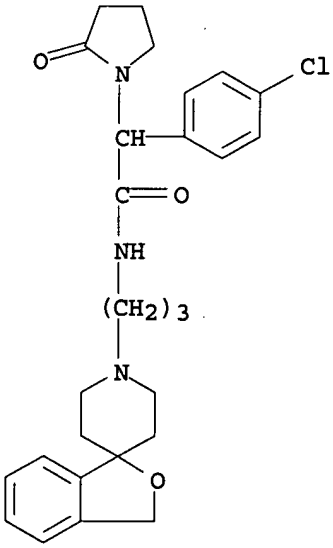
RN 741681-65-2 CAPLUS
CN 1-Pyrrolidineacetamide, α-(3,4-difluorophenyl)-N-[3-(6-fluorospiro[isobenzofuran-1(3H),4'-piperidin]-1'-yl)propyl]-2-oxo- (9CI) (CA INDEX NAME)



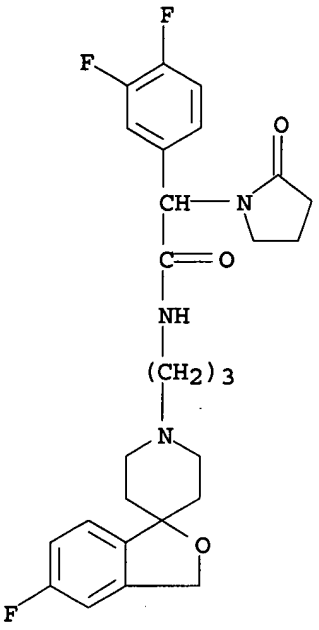
RN 741681-66-3 CAPLUS
CN 1-Pyrrolidineacetamide, α-(3,4-difluorophenyl)-2-oxo-N-(3-spiro[isobenzofuran-1(3H),4'-piperidin]-1'-ylpropyl)- (9CI) (CA INDEX NAME)



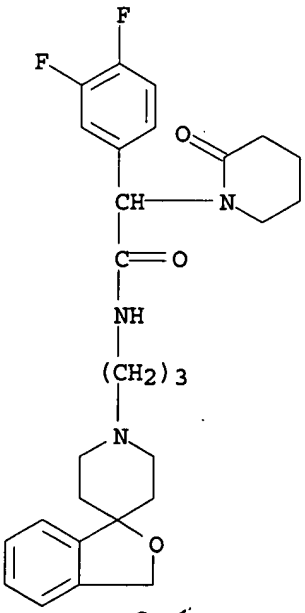
RN 741681-67-4 CAPLUS
CN 1-Pyrrolidineacetamide, α-(4-chlorophenyl)-2-oxo-N-(3-spiro[isobenzofuran-1(3H),4'-piperidin]-1'-ylpropyl)- (9CI) (CA INDEX NAME)



RN 741681-69-6 CAPLUS
CN 1-Pyrrolidineacetamide, α-(3,4-difluorophenyl)-N-[3-(5-fluorospiro[isobenzofuran-1(3H),4'-piperidin]-1'-yl)propyl]-2-oxo- (9CI) (CA INDEX NAME)



RN 741681-71-0 CAPLUS
CN 1-Piperidineacetamide, α-(3,4-difluorophenyl)-2-oxo-N-(3-spiro[isobenzofuran-1(3H),4'-piperidin]-1'-ylpropyl)- (9CI) (CA INDEX NAME)



L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:41265 CAPLUS
DOCUMENT NUMBER: 140:93931
TITLE: Preparation of spirocyclic piperidines as selective MCH1 antagonists with therapeutic uses
INVENTOR(S): Marzabadi, Mohammad; Jiang, Allen; Lu, Kai; Chen, Chien-An; Deleon, John; Wetzel, John

10/518,939

PATENT ASSIGNEE(S): Synaptic Pharmaceutical Corporation, USA
SOURCE: PCT Int. Appl., 140 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004004714	A1	20040115	WO 2003-US21348	20030703
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003261133	A1	20040123	AU 2003-261133	20030703
CA 2485375	AA	20040715	CA 2003-2485375	20030703
BR 2003012256	A	20050426	BR 2003-12256	20030703
EP 1531816	A1	20050525	EP 2003-763351	20030703
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1668300	A	20050914	CN 2003-815883	20030703
JP 2006501188	T2	20060112	JP 2004-520024	20030703
US 2006173027	A1	20060803	US 2004-518939	20041217
NO 2005000145	A	20050111	NO 2005-145	20050111
PRIORITY APPLN. INFO.:			US 2002-189146	A2 20020703
			WO 2003-US21348	W 20030703

OTHER SOURCE(S): MARPAT 140:93931
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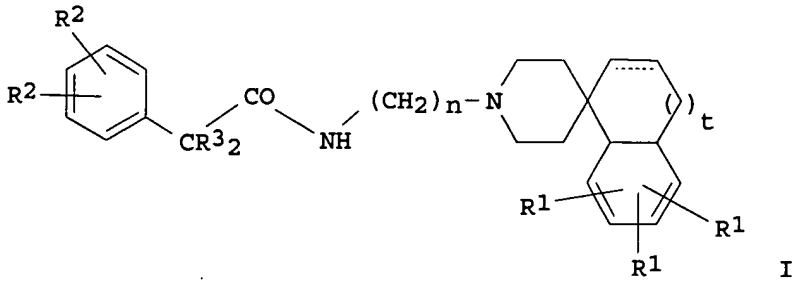

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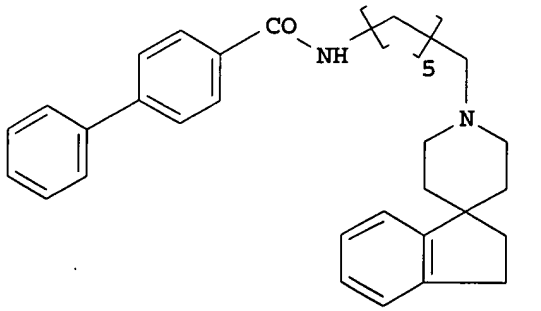


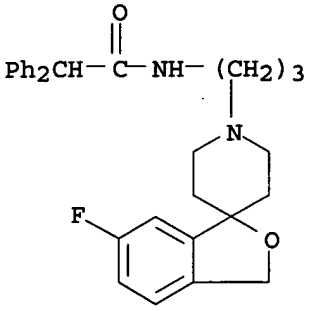
II

AB This invention is directed to spirocyclic piperidines (shown as I; variables defined below; e.g. 4-phenyl-N-[6-(spiro[indane-1,4-piperidine]-10-yl)hexyl]benzamide (II)) that are selective antagonists for melanin concentrating hormone-1 (MCH1) receptors. The invention provides a pharmaceutical composition comprising a therapeutically effective amount of the compound of the invention and a pharmaceutically acceptable carrier. This invention provides a pharmaceutical composition made by combining a therapeutically effective amount of the compound of this invention and a pharmaceutically acceptable carrier. This invention further provides a process for making a pharmaceutical composition comprising combining a therapeutically effective amount of the compds. of the invention and a pharmaceutically acceptable carrier. This invention also provides a method of reducing the body mass of a subject, treating a subject suffering from depression and/or anxiety, and treating a subject suffering from a urinary disorder. Binding consts. for .apprx.100 examples of I to MCH1 are tabulated, e.g. 2.4 nM for 2,2-bis(4-fluorophenyl)-N-[3-(spiro[indene-1,4'-piperidine]-10-yl)propyl]acetamide. Although the methods of preparation are not claimed, .apprx.10 example prepns. are included. For example, II was prepared as part of a library from 6-(spiro[indane-1,4'-piperidine]-10-yl)hexylamine and 4-phenylbenzoyl chloride and either Hunig's base/CH2Cl2, 2 equiv Et3N/3:1 THF-CH2Cl2 or 2 equiv Et3N/THF. For I: the dashed side of the ring is CH2, O, -CO-, -CO2-, -CH2CH2- or -CHCH-; t = 0-1 and the cyclic ring containing t is 5 or 6-membered; n = 1-6; each R1 and R2 = H, F, Cl, Br, I, straight chained or branched C1-C7 alkyl, monofluoroalkyl or polyfluoroalkyl, aryl or heteroaryl; each R3 = H, C1-C6 straight chained or branched alkyl, (un)substituted aryl or heteroaryl (substituents = ≥1 F, Cl, Br, I, R2, straight chained or branched C1-C7 alkyl, aryl, phenoxy or heteroaryl); and two R3 moieties taken together can form a C3-C6 cycloalkyl.

IT 644974-13-0P, 2,2-Bis(4-fluorophenyl)-N-[3-(spiro[indene-1,4'-piperidine]-10-yl)propyl]acetamide 644974-15-2P, N-[3-(1-Oxo-1,3-dihydrospiro[isobenzofuran-3,4'-piperidine]-10-yl)propyl]-2,2-diphenylacetamide
RL: CPN (Combinatorial preparation); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of spirocyclic piperidines as selective MCH1 antagonists with therapeutic uses)

RN 644974-13-0 CAPLUS

CN Benzeneacetamide, 4-fluoro-α-(4-fluorophenyl)-N-(3-spiro[1H-indene-1,4'-piperidin]-1'-ylpropyl)- (9CI) (CA INDEX NAME)



RN 644975-21-3 CAPLUS
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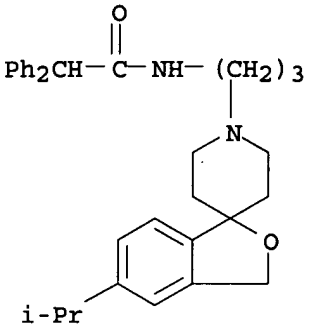
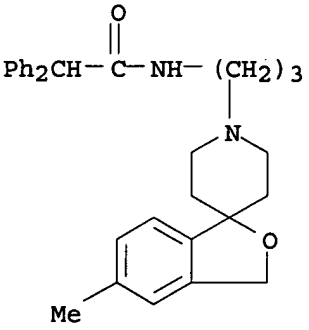
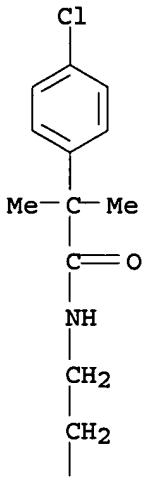


RN 644975-23-5 CAPLUS
CN Benzeneacetamide, N-[3-(5-methylspiro[isobenzofuran-1(3H),4'-piperidin]-1'-yl)propyl]-α-phenyl- (9CI) (CA INDEX NAME)

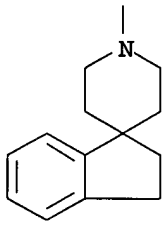


RN 644975-25-7 CAPLUS
CN Benzeneacetamide, 4-chloro-N-[2-(2,3-dihydrospiro[1H-indene-1,4'-piperidin]-1'-yl)ethyl]-α,α-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d re 1-3

L4 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
RE
(1) Champion, H; Am J Physiol, Endocrinol Metab 1997, V273(36), PE214
(2) Champion, H; Life Sci 1997, V60, P241
(3) Chen, Y; FEBS Lett 1994, V347, P279 CAPLUS
(4) Florin, S; Eur J Pharmacol 1996, V317, P9
(5) Fukuda, K; FEBS Lett 1994, V343, P42 CAPLUS
(6) Gumusel, B; Life Sci 1997, V60, P141
(7) Jenck, F; Proc Natl Acad Sci U S A 1997, V94, P14854 CAPLUS
(8) Kawamoto, H; J Med Chem 1999, V42, P5061 CAPLUS
(9) Lazareno, S; Br J Pharmacol 1993, V109, P1120 CAPLUS
(10) Manabe, T; Nature (London) 1998, V394(6693), P577 CAPLUS
(11) Mark, S; J Med Chem 1992, V35, P2033
(12) Meunier, J; Nature 1995, V377, P532 CAPLUS
(13) Mogil, J; Neuroscience (Oxford) 1996, V75, P333 CAPLUS

(14) Molleaau, C; FEBS Lett 1994, V341, P33
(15) Nurulain, Z; Life Sci 2003, V73, P663
(16) Pan, Y; Mol Pharmacol 1995, V47, P1180 CAPLUS
(17) Pomonis, J; NeuroReport 1996, V8, P369 CAPLUS
(18) Reinsceid, R; Science 1995, V270, P792
(19) Ronzoni, S; Exp Opin Ther Pat 2001, V11(4), P525 CAPLUS
(20) Sandin, J; Eur J Neurosci 1997, V9, P194 MEDLINE
(21) Ueda, H; Neuroscience Lett 1997, V237, P136 CAPLUS
(22) William E Parham; J Org Chem 1976, V41, P2628
(23) Yu, T; Hippocampus 1997, V7, P88 CAPLUS

L4 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
RE

(1) Archer, E; Trends Pharmacol Sci 2003, V24(1), P36 CAPLUS
(2) Baggiolini, M; J Intern Med 2001, V250(2), P91 CAPLUS
(3) Becker, O; Curr Opin Drug Discov Devel 2003, V6(3), P353 CAPLUS
(4) Bissantz, C; Proteins 2003, V50(1), P5 CAPLUS
(5) Bondensgaard, K; J Med Chem 2004, V47(4), P888 CAPLUS
(6) Drews, J; Science 2000, V287, P1960 CAPLUS
(7) Evers, A; J Med Chem 2004, V47(22), P5381 CAPLUS
(8) Gozalbes, R; Proceedings of the LogP symposium, submitted 2004
(9) Gurrath, M; Curr Med Chem 2001, V8(13), P1605 CAPLUS
(10) Hipskind, P; J Med Chem 1997, V40(23), P3712 CAPLUS
(11) Holenz, J; J Med Chem 2005, V48(6), P1781 CAPLUS
(12) Horvath, D; Combinatorial Library Design and Evaluation:Principles, Software Tools and Applications in Drug Discovery 2001, P429
(13) Horvath, D; J Chem Inf Comput Sci 2003, V43(2), P680 CAPLUS
(14) Horvath, D; J Chem Inf Comput Sci 2003, V43(2), P691 CAPLUS
(15) Joost, P; Genome Biol, http://genomebiology.com/2002/3/11/research/0063 2002, V3(11), P0063.1
(16) Klabunde, T; ChemBioChem 2002, V3(10), P928 CAPLUS
(17) Krejsa, C; Curr Opin Drug Discovery Dev 2003, V6(4), P470 CAPLUS
(18) Lindow, M; Trends Pharmacol Sci 2003, V24(3), P126 CAPLUS
(19) Moro, S; J Med Chem 2005, V48(1), P152 CAPLUS
(20) Oprea, T; Curr Opin Chem Biol 2002, V6(3), P384 CAPLUS
(21) Palczewski, K; Science 2000, V289(5480), P739 CAPLUS
(22) Patterson, D; J Med Chem 1996, V39(9, 16), P3049
(23) Poulsen, A; J Comput-Aided Mol Des 2002, V16, P273 CAPLUS
(24) Probst, W; DNA Cell Biol 1992, V11(1), P1 CAPLUS
(25) Sun, H; Bioorg Med Chem 2004, V12(10), P2671 CAPLUS
(26) Todeschini, R; Handbook of Molecular Descriptors 2000, P464

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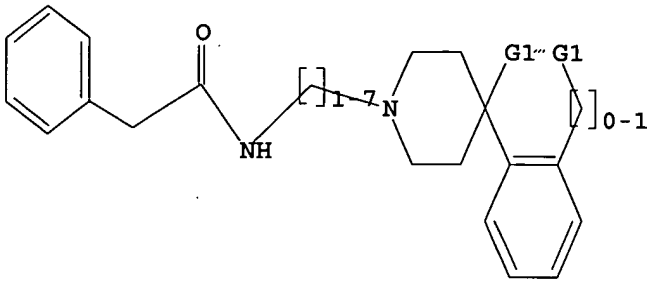

G1 C,O

Structure attributes must be viewed using STN Express query preparation.

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